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# New distribution record of *Megalops atlanticus* Valenciennes, 1847 (Elopiformes, Megalopidae) in El Salvador, Eastern Pacific Ocean

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**Abstract**

A new geographical distribution record of an Atlantic Ocean species, *Megalops atlanticus* Valenciennes, 1847, is reported on the Tropical Eastern Pacific Ocean based on 2 incidental captures by local fishermen at the Acajutla city, El Salvador. Two photographs, which give clear evidence of this species, demonstrate the increasing range of *M. atlanticus* in the Tropical Eastern Pacific. Regional monitoring of this species occurrence is recommended.

**Key words**

Acajutla; Atlantic Ocean; exotic species; Panama Canal; tarpon.

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## Introduction

The Atlantic tarpon, *Megalops atlanticus* Valenciennes, 1847 (sábalo real or tarpon in Spanish) is distributed on both sides of Atlantic Ocean. Along the western Atlantic, it occurs from Virginia (USA) to Brazil (Matamoros et al. 2009, Vega-Rodríguez and Ayala-Pérez 2014, Robertson and Van Tassell 2015, Garrone-Neto and Rodrigues 2018), and occurs in marine, estuarine, and continental ecosystems (Robertson and Van Tassell 2015). Recently, this species has also been recorded along the coastline of several countries in the Tropical Eastern Pacific (TEP), including Colombia, Panama, and possibly Costa Rica (Robertson and Allen 2015). The International Union for Conservation of Nature classifies this species as Vulnerable due to habitat degradation and fisheries in the Atlantic Ocean, but on the contrary, no category has been established for this fish in the TEP. Moreover it is not included in any CITES appendices.

*Megalops atlanticus* presents some important fisheries along the Pacific coast of Colombia (Neira and Acero 2016), but there are no scientific records of economic use of this species in neighboring countries. In the Atlantic this species has an important recreational fishery.

I present the first records of *M. atlanticus* in El Salvador, reflecting the dispersion of this species in the TEP.

## Methods

The new records presented are based on 2 incidental and confirmed captures of *M. atlanticus* by recreational fishermen at Acajutla pier on the west coast of El Salvador. I used the description by Robertson and Van Tassell (2015) to identify the fishes in the photographs, and R. Robertson confirmed these identifications (pers. comm., 4 September 2017).

In a small survey to find other captures *of M. atlanticus* along the coast of El Salvador, I randomly interviewed

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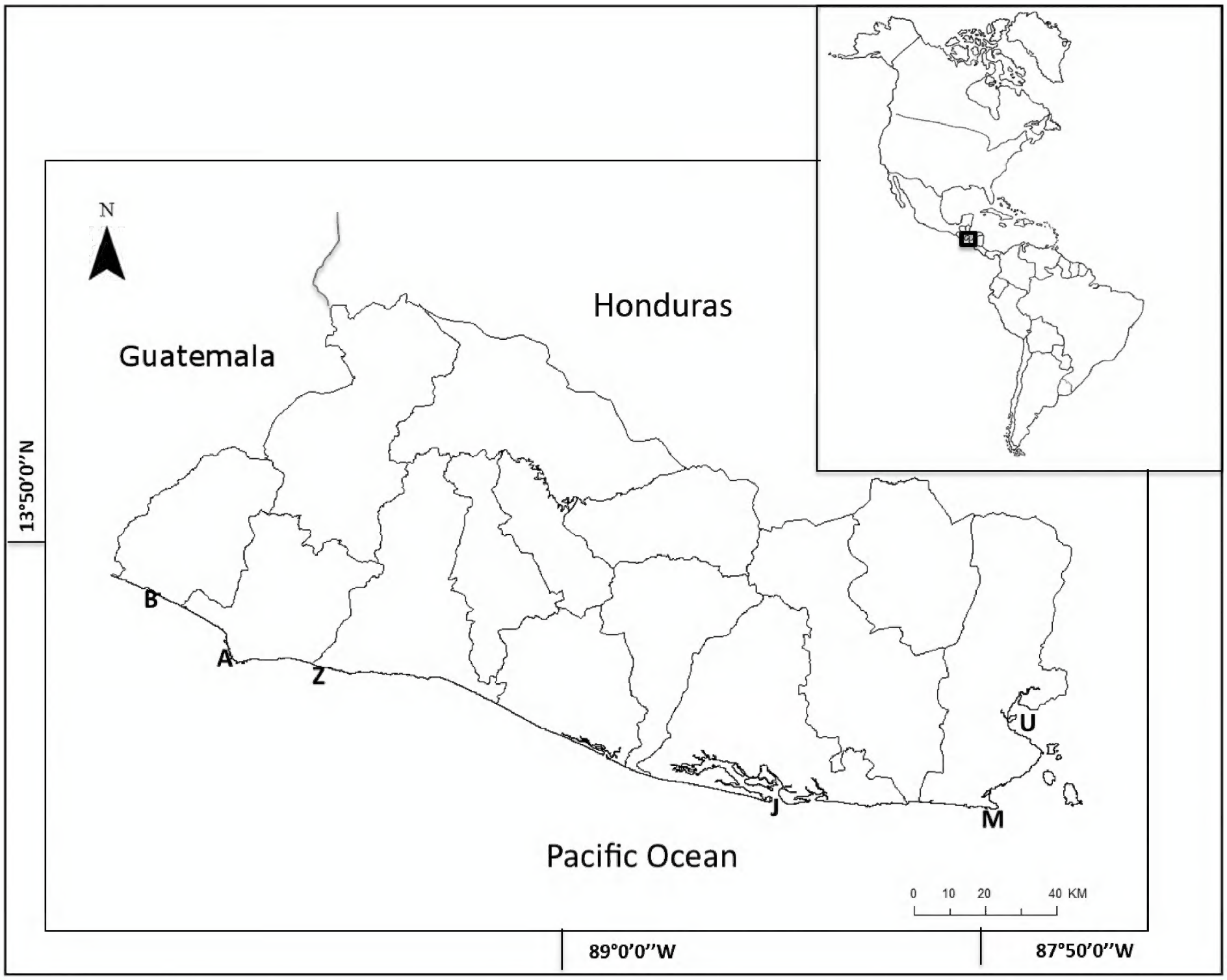


**Figure 1.** Location of El Salvador and the fishermen's pier (A) at Acajutla Municipality, where 2 specimens of *Megalops atlanticus* were captured in September 2017 and March 2018. Survey areas: Barra de Santiago (B), Mizata (Z), Jiquilisco Bay (J), Maculis (M), and La Unión Bay (U).

10 fishermen per village in different coastal zones from October 2017 to March 2018. These villages were Barra de Santiago (13°41′17″ N, 089°59′54″ W), Mizata (13°30′42″ N, 089°36′00″ W), Jiquilisco Bay (13°11′54″ N, 088°29′06″ W), Maculís (13°09′25″ N, 087°55′21″ W), and la Union Bay (13°22′40″ N, 087°50′57″ W).

## Results

**New records.** El Salvador: Sonsonate Department, Acajutla Municipality: artisanal fishermen's pier (13°35′08″ N, 089°50′11″ W) (Fig. 1), captured by unknown fisherman, 3 September 2017. Another fisherman caught a second specimen about six months later at the same place.

The fishermen used live mullet (*Mugil* spp.) and ate the fishes in both cases; therefore, the only evidence is the reports and the images of both specimens, as presented here (Figs 2, 3). Capture of second specimen was shared on social media (https://www.facebook.com/profile.php?id=100011424489095). The survey of fishermen found no other reports of this species from along the coast of El Salvador.

**Identification.** Specimens on photographs displayed the typical compressed and elongated body, silvery body, large scales, oblique mouth that opens upwards, and a projecting low jaw; moreover, there are no similar looking species in the TEP (Robertson and Allen 2015). Based on the photographs, the specimens measured 0.9 m and 1.0 m long (first and second specimen, respectively), and the fisherman of the second specimen stated that the fish weighed 9.1 kg.

## Discussion

The new records based on 2 incidental captures of *M. atlanticus* at Acajutla Municipality provide evidence that this species is spreading northward in the TEP. The closest previous record of *M. atlanticus* is at Coiba Island, Panama (07°38′54″ N, 081°44′51″ W) (OBIS 2018), which is about 1100 km from Acajutla Pier. In the 1930s this species was already on the Pacific side of Panama Canal (Hilldebrand 1939); it had crossed from the Atlantic regardless of physical and salinity barriers. Later, McCosker and Dawson (1975) reported *M. atlanticus* at the upper east chamber of Miraflores lock (near the Pacific Ocean), and most recently, Robertson and Allen (2015) considered that this species crossed the Isthmus of Panama by way of the Panama Canal and now occurs in some parts of the TEP. Although this species crossed into

**Figures 2, 3.** Local fishermen with *Megalops atlanticus* at Acajutla, El Salvador. **2.** September 2017; photograph shared by Mauricio Chávez. **3.** March 2018; photograph by Alfonso Álvarez.

the Pacific via the Panama Canal at least 79 years ago, its dispersion within the TEP is being observed in the last decade (Castellanos-Galindo and Zapata-Padilla 2013, Neira and Acero 2016).

All records of this species within the TEP are from within the Panamic province, which encompasses coastal waters from Mexico to southern Ecuador (Robertson and Cramer 2009). The southernmost TEP occurrences of this species are in the gulfs of Cupica and Tribugá, Colombia, where Neira and Acero (2016) documented artisanal fisheries on this species.

My survey of fishermen from different areas of the coast of El Salvador found no additional observations for this species. Regional monitoring on the geographical distribution is needed to document possible environmental impacts such as predation, although there are no declines of other fish species due to the presence of *M. atlanticus* in the TEP (Castellanos-Galindo and Zapata-Padilla 2013, Robertson and Allen 2015, Neira and Acero 2016). Research is required to determine causes of the recent dispersal of *M. atlanticus* in the TEP.

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